

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problems Mailbox.**

(12) UK Patent Application (19) GB (11) 2 233 235 (13) A

(43) Date of A publication 09.01.1991

(21) Application No 9014335.5

(22) Date of filing 27.06.1990

(30) Priority data

(31) 01075460 (32) 27.06.1989 (33) JP
01096516 18.08.1989
01148985 25.12.1989

(51) INT CL⁵

A61F 13/15

(52) UK CL (Edition K)

A5R RPF

(56) Documents cited

GB 2188532 A GB 2168253 A GB 2161384 A
EP 0269879 A2 US 4655759 A

(71) Applicant

Kao Corporation

(Incorporated in Japan)

14-10 Nihonbashi-Kayaba-cho, 1-chome, Chuo-ku,
Tokyo, Japan

(72) Inventor

Takatoshi Kobayashi

(74) Agent and/or Address for Service

Kilburn and Strobe
30 John Street, London, WC1N 2DD, United Kingdom

(58) Field of search

UK CL (Edition K) A5R RPC RPF RPG

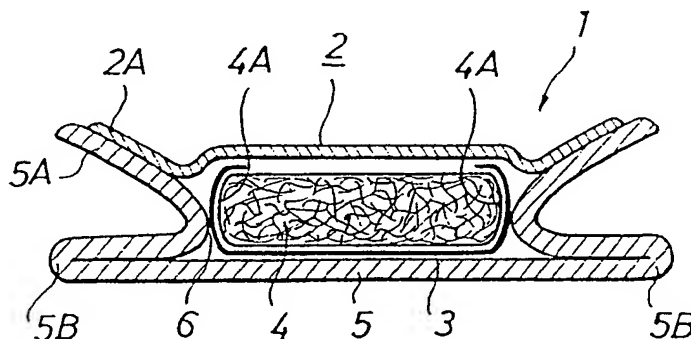
INT CL⁵ A61F 13/15

Online databases: WPI

(54) Absorbent pad with resilient side flaps

(57) A generally elongate absorbent pad 1 has an upper liquid pervious layer 2, a lower liquid impervious layer 3 and an absorbent core 4 sandwiched between these layers. A flap 5A of resilient material projects upwardly and outwardly from each longitudinal side of the pad over at least part of its length and extends from a position below the upper surface of the absorbent core 4 to a position above the upper surface of the core 4. The flaps fit closely to the inner thigh region and thus prevent leakage.

Fig .3



GB 2 233 235 A

Fig. 2

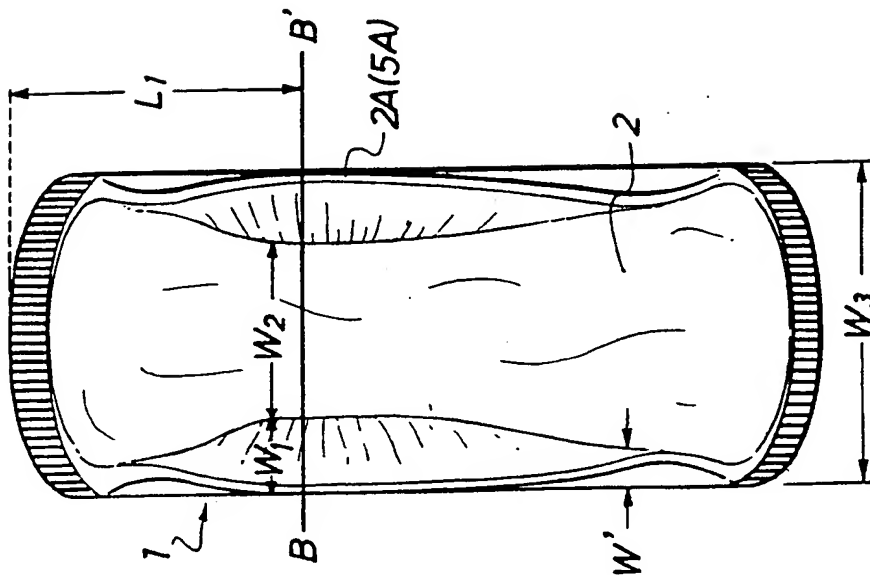


Fig. 1

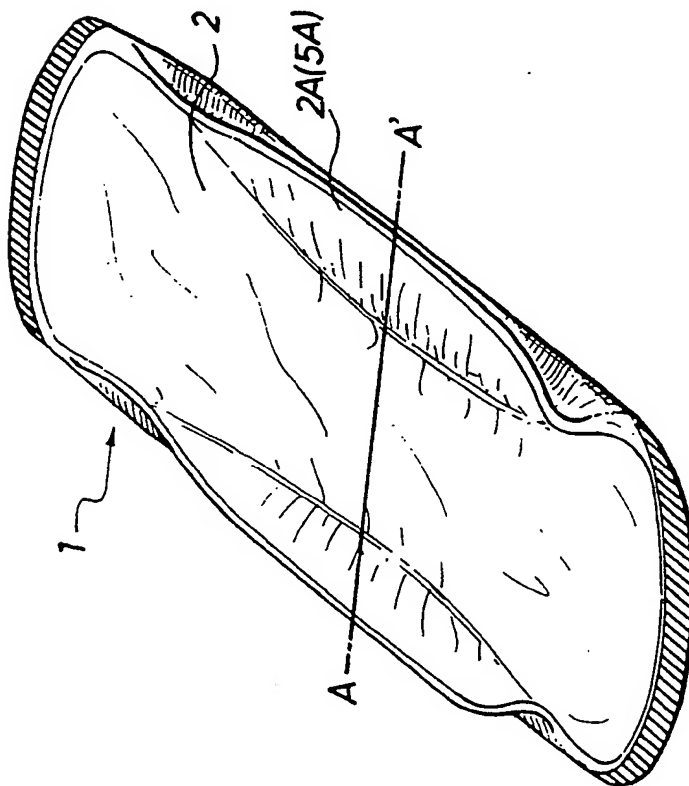


Fig .3

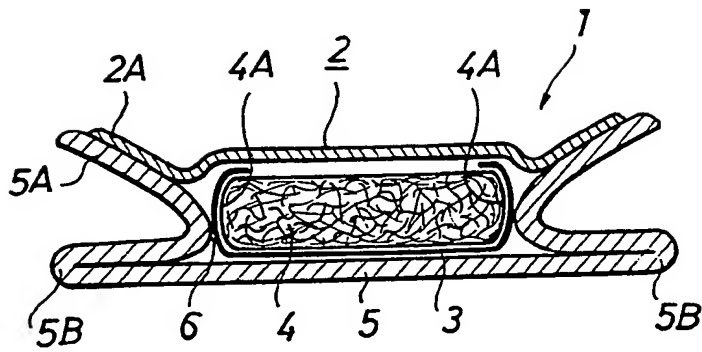


Fig .4

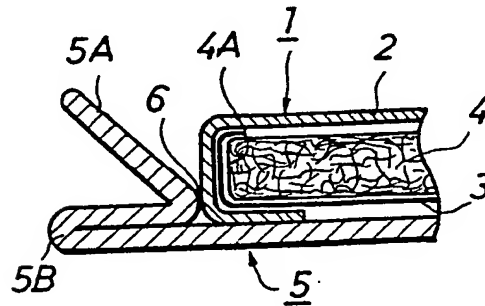
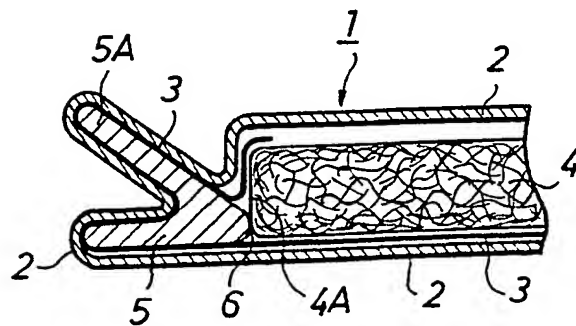


Fig .5



3/5

Fig .6

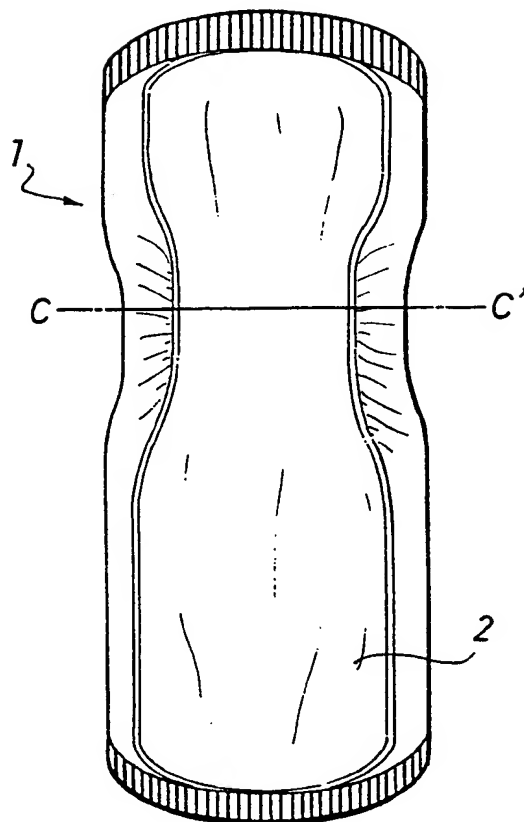


Fig .7

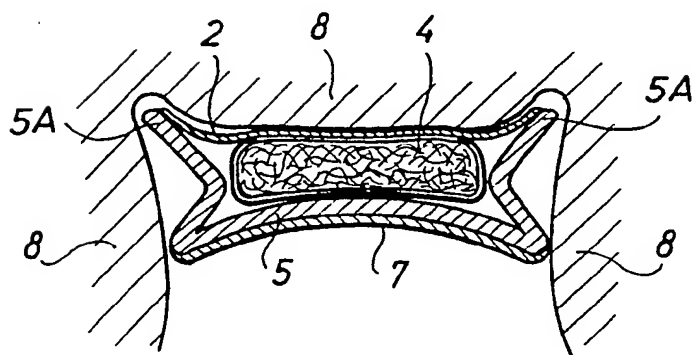


Fig. 8

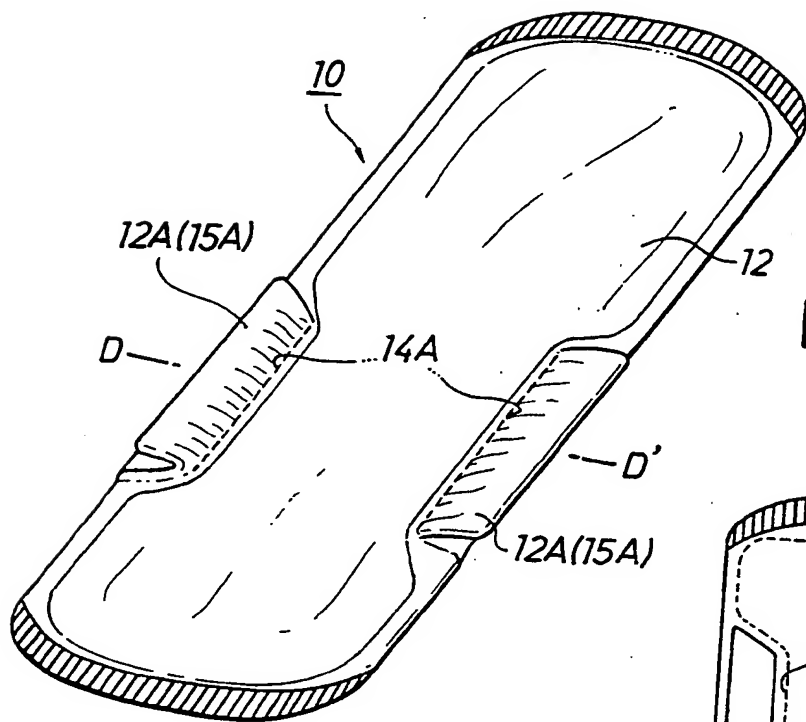


Fig. 9

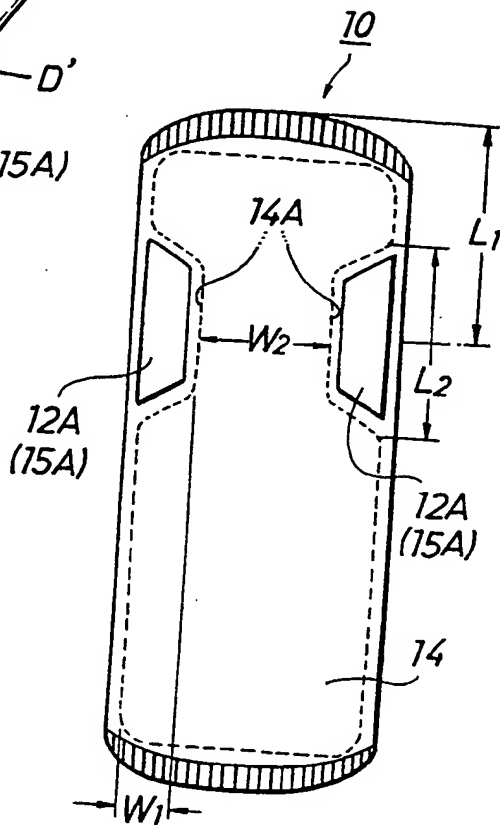


Fig. 10

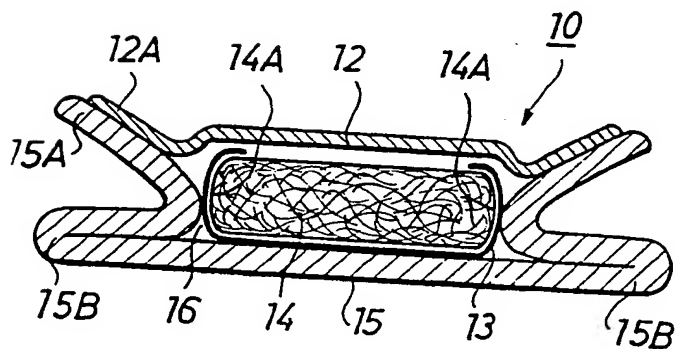


Fig .11

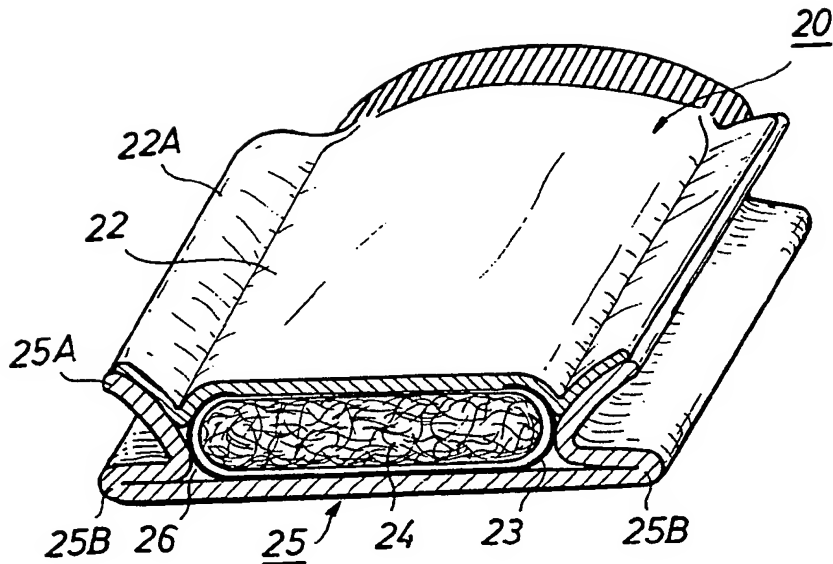


Fig .12

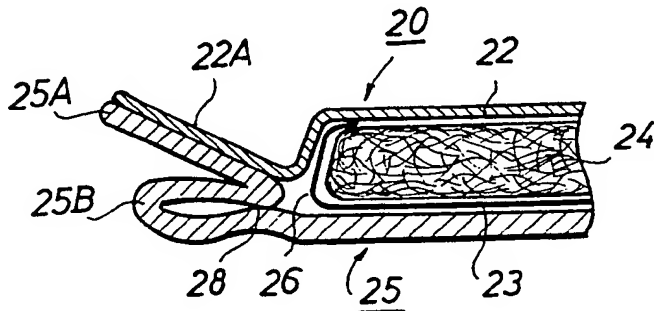
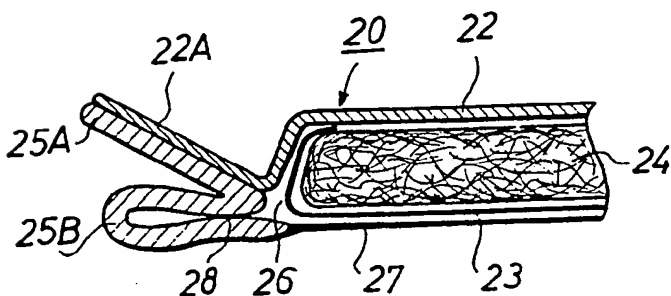


Fig .13



ABSORBENT PADS

The present invention relates to absorbent pads and is particularly concerned with sanitary napkins or towels which are worn during menstruation and are capable of arresting a leakage of menstrual blood.

- Conventional absorbent pads or sanitary towels
5. general comprise a liquid pervious surface material (top sheet), a liquid impervious waterproof material (backing sheet) and an absorbent core interposed between the top and bottom sheets and they have a substantially elongate shape. It is desirable that
10. sanitary towels have good absorbent qualities, that menstrual blood is prevented from leaking in all circumstances, that absorbed blood is not expelled or released and that the towel is comfortable when worn.

- Conventional sanitary towels include a core
15. comprising a highly absorptive polymer having good liquid absorbing and retaining qualities. The towel may have an absorbent core which is designed to imitate the shape of the user's figure. Comfort is thereby improved and twisting or distortion of the towel, which
20. can result in a leak, can be efficiently prevented. One example of a known sanitary towel includes an elastic material having a resistance to bending inside an absorbent core of pulp (as described in Japanese
25. Utility Model Laid-open Publications Nos. 59-190235 and 60-58131). A sanitary towel has also been designed with improved leak-proof qualities by adding elastic recoverability to the pulp absorbent core: the core thus has an excellent absorbtivity and maintains its shape. This is achieved by locating a foam sheet
30. having elastic recoverability on the non-absorbent

surface of the towel (Japanese Utility Models Laid-open Nos. 55-89423 and 59-190233).

5. The sanitary towel described in each of the above publications is capable of preventing the lateral distortion of the absorbent core which occurs when the user engages in physical activity whilst wearing an undergarment that fits the body very closely. Thus the width of the absorbent core can always be maintained the same thereby efficiently preventing distortion and side leaks of menstrual blood thus prevented. However, such a sanitary towel is incapable of following the complicated physical contours and movements of the body during physical activity and a space is frequently formed between the groin and the sanitary towel. It is then impossible to prevent front and back leaks. In addition, the resistance of the elastic body which maintains the shape of the towel works against the movement of the body and this causes an unpleasant feeling.

20. A further problem occurs when the user wears a loose-fitting undergarment. In this case, a space is liable to occur between the sanitary towel and the body because the sanitary towel may be deformed or completely displaced at random. Due to the elastic recoverability of the sanitary towel, a space is maintained and a leak is likely.

25. It is thus an object of the present invention to provide an absorbent pad, in particular a sanitary towel, which is capable of reliably preventing a liquid leak or overflow and is comfortable in use.

30. A further object of the invention is to provide an absorbent pad which is capable of reliably preventing an liquid overflow regardless of the type of

undergarment which is worn or even if no undergarment is worn and is comfortable to wear.

5. According to the present invention an elongate absorbent pad comprises an upper liquid pervious layer and a lower liquid impervious layer, an absorbent core between the impervious and pervious layers and a flap extending along at least part of each longitudinal side of the pad and inclined transversely upwardly and outwardly from the respective longitudinal side, the
10. flap extending down to a position below the upper surface of the absorbent pad and up to a position above the upper surface of the absorbent pad.

15. In the preferred embodiment the inclined flap comprises resilient material and is maintained in or urged towards its inclined orientation by its resilience.

20. It is preferred that the side walls of the absorbent core are concave over at least part of their length and that the resilient flaps extend over the length of the concave portions. The inclined flaps preferably extend to a higher level at the centre of the concave portions, i.e. at the position where the width of the absorbent core is at a minimum, than at the ends of the concave portions and/or at the ends of
25. the inclined flaps if they extend beyond the concave portions.

30. It is preferred that the concave portions of the side walls of the absorbent core are longitudinally offset from the centre of the absorbent core.

It is preferred that the lower end of the inclined flaps is secured in position with respect to the absorbent core. This may be done by connecting the lower end of the inclined flaps, e.g. by bonding, to

the impervious layer which may extend around the absorbent core or to the pervious layer which may partially overlies the impervious layer.

5. In the preferred embodiment the resilient material extends below the impervious layer and laterally beyond the absorbent pad on each side thereof and is there bent through substantially 180° about a fold line extending substantially parallel to the length of the pad and is bent upwardly and outwardly about a further fold line extending substantially parallel to the length of the pad to define the inclined flaps.

10. It is preferable that the previous layer overlies and is secured to the upper surface of the inclined flaps.

15. Thus in the absorbent pad of the present invention there is an inclined flap projecting away from the upper surface of the absorbent core on each side of the pad and this engages the user's body and acts as a leak-proof wall so as reliably to prevent the leakage or overflow of liquid. In the preferred embodiment in which the absorbent core is provided with concave portions along its side, these concave portions fit the inner thigh region of the user and the inclined flaps which extend over the concave portions follow the contours of the inner thigh region and absorb any stress to which it is subjected due to movement of the user and maintain a close fit with the inner thigh region, thereby preventing any leakage of liquid regardless of the type of undergarment, if any, which is worn.

20. Further features and details of the present invention will be apparent from the following

discription of a number of specific embodiments which is given by way of example with reference to the accompanying drawings, in which:

5. Figure 1 is perspective view of a first embodiment of sanitary towel in accordance with invention;
Figure 2 is a plan view of the first embodiment;
10. Figure 3 is a cross section through the first embodiment along the line A-A' in Figure 1;
Figure 4 is a scrap cross section through a second embodiment of sanitary towel in accordance with the invention;
15. Figure 5 is a view similar to Figure 4 of a third embodiment of the invention;
20. Figure 6 is a plan view of a fourth embodiment of sanitary towel in accordance with the invention;
Figure 7 is cross section through the inner thigh region of a user wearing a sanitary towel in accordance with the fourth embodiment;
25. Figure 8 is perspective view of a fifth embodiment of sanitary towel in accordance with the invention;
30. Figure 9 is a plan view of the fifth embodiment;
Figure 10 is a cross section on the line D-D' in Figure 8;

Figure 11 is a scrap perspective view, partly cut away, of a sixth embodiment of sanitary towel in accordance with the invention;

5. Figure 12 is a scrap cross section through a seventh embodiment of sanitary towel in accordance with the invention; and

10. Figure 13 is a scrap cross section through an eighth embodiment of sanitary towel in accordance with the invention.

Referring firstly to Figs. 1 to 3, the sanitary towel 1 has a liquid pervious surface layer 2 comprising a nonwoven fabric or a perforated film of polyethylene or the like and a liquid impervious waterproof layer 3 comprising an extremely thin synthetic resin film of polyethylene or the like or a material made by laminating such a film to paper. An absorbent core 4, comprising pulp whose fibres are unraveled or a highly absorbent polymer or the like, is interposed between the pervious and impervious layers 2 and 3. The sanitary towel is of generally elongate shape.

25. The absorbent core has a concave side portion 4A whose depth increases and then decreases again in the longitudinal direction on each longitudinal side, which is slightly forwardly offset from the longitudinal centre of the pad. The concave portions 4A are designed to fit the inner thigh regions of the wearer.

30. The bottom and sides of the absorbent core 4, as seen in Fig. 3, are covered by the waterproof layer 3 which

- also extends around the edges of the top surface. The top surface of the absorbent core 4 is covered by the pervious layer 2 thereby forming the absorbent surface which, in use, accepts menstrual blood. The pervious
5. layer 2 includes a flap or projection 2A along each side which projects laterally outwardly. The projections 2A are connected to the upper surface of the inclined flaps 5A, which will be described below, so as to function together with the inclined flaps as
10. leak-proof walls.
- Provided against the outer surface of the impervious layer 3, that is to say on the bottom of the absorbent core 4, is an elastic sheet 5 which also extends around the longitudinal sides of the absorbent
15. core 4. In the region of the concave side portions 4A of the absorbent pad 4, the elastic sheet is so designed that portions along the longitudinal sides of the sheet project laterally outwardly beyond the absorbent core and these are folded back on themselves
20. through 180° along a fold line which extends parallel to the length of the core 4 to form a folded portion 5B and are then folded upwardly and outwardly about a further fold line extending parallel to the length of the core 4, generally indicated by the numeral 6, to
25. form a pair of inclined flaps 5A, as best seen in Fig. 3. The flaps extend down to a level below the upper surface of the core 4, in fact virtually to its lower surface, and also extend up to a level above the upper surface of the core. The two adjacent layers in the
30. folded region 5B contact one another and may be optionally bonded together. The lower end of each flap is secured in position with respect to the core 4 by fastening its inner surface adjacent to fold 6 to the

- layer of pervious material 3, e.g. by bonding. As mentioned above, the upper surface of the inclined flaps 5A is connected to the associated projection 2A of the layer 2. Flaps 5A define, together with the associated folded portion 5B, a pocket or recess extending part way along each longitudinal side of the towel.
- 5.

- Each inclined flap 5A extends over the major proportion of the length of the towel, the extent to which it projects away from the absorbent core 4 altering along its length. The free edge of each inclined flap 5A in the region of the concave portions 4A extends higher than at each end, that is to say at each longitudinal distal portion thereof. The elastic sheet 5 is made of material having a high elasticity and/or hydrophobic properties: examples include polyolefine foam, polyurethane and the like or a nonwoven fabric. Polyolefine foam or nonwoven fabric is preferred due to its soft feel against the user's skin and also in view of security.
- 10.
- 15.
- 20.

Either a closed cell or an open cell foam structure may be used and the open cell structure is preferred.

- The elastic sheet 5 preferably has an excellent elastic recoverability; the yield stress is preferably in a range of 15 to 100 g/cm², more preferably 20 to 80 g/cm².
- 25.

- The thickness of the elastic sheet 5 is preferably in the range 0.3 to 5 mm, more preferably 0.5 to 3mm.
- 30.

The width W_1 , as seen in Fig. 2, of the inclined flaps 5A in the region of the concave side portions 4A is preferably 3 mm or more, more preferably 3 to 20 mm,

most preferably 5 to 15 mm. It is also preferred that the width of the projections 2A on the pervious layer 2 is almost the same as the width of the inclined flaps 5A. For reasons of comfort, it is preferred that there is a relation of $W' \leq W_1$ between the width W_1 of each inclined flap 5A near the narrowest part of the absorbent core 4 and the width W' of the inclined flaps 5A beyond the concave side portions 4A. W' is preferably 12 mm or less, more preferably 8 mm or less.

10. The edge of the inclined flaps 5A, when the towel is oriented as in Fig. 3, is preferably at least 1 mm higher than the top surface of the absorbent core 4, more preferably 2 to 5 mm higher.

15. Furthermore, the edge of each inclined flap 5A extends higher in the concave side portions 4A of the absorbent core 4 than outside these portions. Generally speaking, a sanitary towel rarely fits the inner thigh region, when in use. However, when the difference in height between the edge of the inclined flaps 5A in the concave side portions 4A and outside these portions is selected to be 3 to 5 mm, the leak-proof qualities are improved and the physical comfort of the wearer is improved.

25. The concave side portions 4A of the absorbent core 4 are so formed that the narrowest part thereof fits the narrowest region between the thighs of the user, when in use. Accordingly, although the position where the concave side portions are formed varies in accordance with the length of the absorbent core 4, the length L_1 from the front edge to the center of the concave regions 4A (measured to the line B - B') as shown in Fig. 2, is preferably 60 to 100 mm, more preferably 70 to 90 mm.

The width W_2 between the concave side portions 4A of the absorbent core 4 is preferably 25 to 65 mm, more preferably 30 to 50 mm.

5. The width of the crotch of an undergarment used during the menstrual period is generally 80 to 65 mm. It is necessary that the width of the sanitary towel 1 does not exceed the width of the crotch in order to enable the inclined flaps 5A to function as leak-proof walls. Further, if the width is too small, the absorbent capacity of the absorbent core 4 is insufficient. Therefore, the width W_3 of the sanitary towel 1 is preferably 80 to 60 mm, more preferably 75 to 65 mm.
- 10.

15. The provision of an adhesive tape for fixing the towel 1 to an undergarment is of importance and the position of this tape is particularly important. In order to make the inclined flaps 5A function efficiently, it is preferably to provide the adhesive tape in a region where the absorbent core 4 has its minimum width W_2 . The adhesive tape in that case may cover the whole area having width W_2 or it may comprise two strips which are provided only in positions adjacent to the concave side walls 4A and not in the centre.
- 20.

25. Due to the shape and disposition of the concave portions 4A and the inclined flaps 5A, the concave portions 4A of the absorbent core 4 fit the body 8 very well, when in use, as shown in Fig. 7, and the inclined flaps 5A contact the body 8 and follow the physical form of the user. Moreover, the flaps deform to follow movements of the body 8 regardless of whether and what variety of undergarment is worn so that the user is not in any discomfort. In Fig. 7, numeral 7 indicates a
- 30.

sanitary panty.

The inclined flaps 5A seal any menstrual blood spreading from the absorbent core 4 to the pocket formed between each inclined flap 5A and the absorbent core 4.

5. Since each inclined flap 5A curves along each longitudinal side of the absorbent core 4 and the inclined flaps 5A in the region of each concave side portion 4A are higher than at their longitudinal distal region, the fit of the sanitary towel and the physical comfort of the wearer are both improved.

10. The operation of the above construction will now be described in detail. When the sanitary towel is worn, since the absorbent core is shaped to fit the body 8, the inclined flaps 5A of the sides of the towel 1 are always directed towards the body and function as leak-proof walls. The inclined flaps 5A has elastic recoverability so that they fit the body closely regardless of whether any undergarment or what variety of undergarment, for example a loose-fitting undergarment, is worn and function as leak-proof walls at all times.

15. The sanitary towel 1 of the second embodiment is so constructed that, as shown in Fig. 4, the pervious layer 2 extends over the upper surface of the absorbent core, both longitudinal surfaces and the edges of the bottom surface which is covered by the impervious layer 3. The longitudinal sides of the elastic sheet 5 are formed as in the first embodiment and the lower end of each inclined flap 5A is fixed at the region 6 to the pervious layer 2 covering the respective longitudinal side of the absorbent core 4. In other respects, the second embodiment is substantially the same as the
- 25.
- 30.

first embodiment. The same function and associated advantages and effects as in the first embodiment are therefore to be expected.

5. In the third embodiment shown in Fig. 5, an elongate elastic sheet is bent and formed into a generally V shape, when viewed in transverse cross section, and positioned in the region of each concave side portion 4A of the absorbent core 4. On each longitudinal side of the towel, one arm of the V of the respective elastic sheet 5 is arranged substantially flush with the bottom surface of the absorbent core 4 and extending outwardly from the respective longitudinal side thereof, whilst the other arm comprises the respective inclined flap 5A. Each elastic sheet 5 is bonded at the position adjacent its apex 6 to the absorbent core 4.
- 10.
- 15.

- The elastic sheets 5 and the absorbent core 4, with exception of the absorbent surface, are covered by the impervious layer 3. The absorbent core 4, the elastic sheet 5 and the impervious layer 3 are together completely covered by the pervious layer 2. In other respects, the third embodiment is the same as the first and second embodiments and the same function and associated advantages and effects are therefore again to be expected.
- 20.

25. The fourth embodiment shown in Fig. 6 is substantially the same as the first embodiment except that the shape of the edges of the inclined flaps 5A is concave and curved and follows the shape of the concave side portions 4A of the absorbent core 4. The sectional view along the line C - C' in Fig. 6 is therefore substantially the same as that of the sanitary towel of the first embodiment. With the
- 30.

inclined flaps 5A formed into the above shape, the sanitary towel of the fourth embodiment is more comfortable, when worn.

5. In the fifth embodiment shown in Figs. 8 to 10, the sanitary towel comprises a liquid pervious surface layer 12, comprising a nonwoven fabric or a perforated film of polyethylene or the like, and a liquid impervious waterproof layer 13 comprising extremely thin synthetic resin film of polyethylene or the like or a material made by laminating such a film to paper.
10. An absorbent core 14, comprising a pulp whose fibres are unraveled, highly absorbent polymer or the like, is interposed between these layers 12 and 13. The sanitary towel 10 again has substantially elongate shape.
15. The absorbent core 14 has a longitudinally concave side portion 14A of increasing and then decreasing depth in the longitudinal direction on each longitudinal side which is positioned slightly forward of the longitudinal centre. The concave side portions
20. 14A are formed to fit the inner thigh region of a wearer. The bottom, both the side surfaces and the edges of the top surface of the absorbent core 14 are covered by the impervious layer 13. Substantially the entire top surface of the absorbent core 14, only the
25. edges of which are covered by the impervious layer 13, is covered by the pervious layer 12, thereby forming the absorbent surface which, in use, accepts menstrual blood. The pervious layer 12 includes a flap or projection 12A along each side which projects laterally
30. outwards. The projections 12A are connected to the inclined flaps 15A, which will be described below, so as to function together with the inclined flaps 15A as

leak-proof walls.

5. Provided outside the impervious layer 13 below the absorbent core 14 is an elastic sheet 15 which also extends around the longitudinal sides of the absorbent core. In the region of the concave side portions 14A the elastic sheet 15 is designed so that its longitudinal side portions project laterally outwardly and are folded back on themselves to 180° about a fold line extending parallel to the length of the towel to form folded portions 15B and are then folded again upwardly and outwardly about a further fold line extending parallel to the length of the towel to form the inclined flaps 15A. The two layers of the folded portions 15B contact one another and may be bonded together. The flaps 15A extend from a level below the upper surface of the absorbent core 14 to a level above the upper surface and their inner surface is bonded in the region 16 to the impervious layer 13 so as to fix them in position with respect to the absorbent core 14.
10. The side flaps or projections 12A of the pervious layer 12 are secured, e.g. by bonding, to the upper surface of the flaps 15A thereby forming an internal pocket along the longitudinal sides of the absorbent core 14.
15. The width of the inclined flaps 15A is preferably 3 mm or more, more preferably 3 to 20 mm and most preferably 5 to 15 mm.
20. The edge of the inclined flap 15A, when the sanitary towel is oriented as in Fig. 10, is preferably at least 1 mm higher than the surface of the absorbent core 14, more preferably 2 to 5 mm higher. The inclined flaps 15A are arranged so that the above position is maintained by elasticity when the sanitary towel is in use.

25. The width of the inclined flaps 15A is preferably 3 mm or more, more preferably 3 to 20 mm and most preferably 5 to 15 mm.

30. The edge of the inclined flap 15A, when the sanitary towel is oriented as in Fig. 10, is preferably at least 1 mm higher than the surface of the absorbent core 14, more preferably 2 to 5 mm higher. The inclined flaps 15A are arranged so that the above position is maintained by elasticity when the sanitary towel is in use.

5. The concave portions 14A of the absorbent core 14 are so formed that the narrowest part thereof fits the narrowest region between the thighs of a user, when in use. Accordingly, although the position where the concave side portions are formed varies according to the length of the absorbent core 14, the length L_1 from the front edge to the centre of the concave regions 14A is preferably 60 to 100 mm, more preferably 70 to 90 mm. The length L_2 of the concave portions 14A is 10. preferably 30 mm or more, e.g. 30 to 120 mm and more preferably 40 to 100 mm.

15. The width W_2 of the core 14 between the concave side portions 14A is preferably 25 to 75 mm, more preferably 30 to 50 mm. Since a sanitary towel ordinarily has a width of 60 to 100 mm, the width W_1 of the inclined flaps in the region of the concave portions 14A is preferably 10 to 50 mm, more preferably 10 to 20 mm.

20. In the sixth embodiment shown in Fig. 11, the sanitary towel comprises a liquid pervious liquid layer 22 of one of the materials referred to above and a liquid impervious waterproof layer 23, again of one of the materials referred to above. An absorbent core 24, of one of the materials referred to above in connection with the preceeding embodiments is interposed between 25. the layers 22 and 23 and a sanitary towel 20 is again of elongate shape. The bottom, both longitudinal sides and the edges of the top surface of the absorbent core 24 are covered by the impervious layer 23. 30. Substantially the entire top surface of the absorbent core 24, only the edges of which are covered by the impervious layer 23, is covered by the pervious layer 22 thereby forming the absorbent surface which, in use,

accepts menstrual blood. The pervious layer 22 includes a flap or projection 22A along each side which projects laterally outwardly. The projections 22A are connected to the inclined flaps 25A, which will be described below, so as to function, together with the inclined flaps 25A as leak-proof walls.

5. Extending substantially around the impervious layer 23 is an elastic sheet 25 of foam material which has laterally outwardly projecting side portions along each longitudinal side of the sheet. The side portions
10. are folded back through 180° about a fold line extending substantially parallel to the length of the towel to form folded portions 25B, whose layers may be optionally bonded together, and then upwardly and outwardly about a further fold line to form the
15. inclined flaps 25A. The inner surface of each flap 25A is secured to the associated lateral side wall of the impervious layer 23 at the region 26. The flaps again extend from a level below the upper surface of the absorbent core to a level above the upper surface of the
20. core. The upper surface of the inclined flaps 25A is connected to the associated projection 22A of the pervious layer 22 thereby forming pockets along the longitudinal sides of the absorbent core 24.

- The width of the inclined flaps 25A is preferably
25. 3 mm or more, more preferably 3 to 20 mm, most preferably 5 to 15 mm.

- The edges of the inclined flaps 25, when the sanitary towel 20 is oriented conventionally, is preferably 1 mm higher than the top surface of the
30. absorbent core 24, more preferably 2 to 5 mm higher.

In the seventh embodiment shown in Fig. 12, the sanitary towel comprises a pervious layer 22, and

- impervious layer 23, an absorbent core 24 and an elastic, preferably foam, sheet 25, and is substantially the same as the sanitary towel of the sixth embodiment. However, the inclined flaps 25A and the folded portions 25B are somewhat different. Thus
5. in this embodiment, the bottom portion of the inclined flaps 25A does not extend to the absorbent core 24. The lower end of each flap 25A is not bonded to the absorbent core or the impervious layer surrounding it
10. but is instead bonded along a line 28 to the lower layer of the folded portion 25B, which effectively serves the function of connecting the lower ends of the flaps 25A in position in relation to the absorbent core. Outside the line 28 the two layers of the folded
15. portions 25B define a narrow gap. A space is defined in the region 26 between the lower corners of the impervious layer 23 and the elastic sheet, and a further space is formed between the folded-back portions 25B, which increases the bulkiness of the
20. sanitary towel. The flaps or projections 22A of the upper pervious layer 22 are again connected to the upper surface of the inclined flaps 25A.

- In the eighth embodiment shown in Fig. 13, the bottom of the absorbent core 24 is covered with a
25. waterproof paper layer 27 made by laminating an extremely thin synthetic resin sheet of polyethylene or the like. This is used instead of the elastic or foam sheet 25 in the sixth and seventh embodiments. In other respects the eighth embodiment is substantially
30. the same as the second embodiment.

The overall shape of the towel cross section in each of the above embodiments can be applied to any of the embodiments. In each case, a sanitary towel is

described but no limitation to sanitary towels is intended and the invention could equally be applied to any absorbent pad intended to be worn between the legs of a user or such a pad forming part of a sanitary panty as in Fig. 7. No limitation to concave portions being provided in each side of the absorbent core is intended. Furthermore, the lower end of the inclined flaps may be positioned either above or below the bottom surface of the absorbent core.

5.

10.

15.

20.

25.

30.

CLAIMS

1. An elongate absorbent pad comprising an upper liquid pervious layer and a lower liquid impervious layer, an absorbent core between the impervious and pervious layers and a flap extending along at least part of each longitudinal side of the pad and inclined transversely upwardly and outwardly from the respective longitudinal side, the flap extending down to a position below the upper surface of the absorbent pad and up to a position above the upper surface of the absorbent pad.

10.

2. An absorbent pad as claimed in Claim 1 wherein the inclined flap comprises resilient material and is maintained in or urged towards an inclined orientation by its resilience.

15.

3. An absorbent pad as claimed in Claim 1 or 2 in which the side walls of the absorbent core are concave over at least part of their length and the resilient flaps extend over the length of the concave portions.

20.

4. An absorbent pad as claimed in Claim 3 wherein the inclined flaps extend to a higher level at the centre of the concave portions than at their ends.

25.

5. An absorbent pad as claimed in Claim 3 or 4 in which the concave portions of the side walls of the absorbent core are longitudinally offset from the centre of the absorbent core.

30.

6. An absorbent pad as claimed in any one of the preceeding claims in which the lower end of the inclined flaps is secured in position with respect to the absorbent core.

5.

7. An absorbent pad as claimed in Claim 6 in which the lower end of the inclined flaps is connected to the impervious layer extending around the absorbent core or to the pervious layer overlying the impervious layer.

10.

8. An absorbent pad as claimed in Claim 2 or any subsequent claim when dependent thereon in which the resilient material extends below the impervious layer and laterally beyond the absorbent pad on each side thereof and is there bent through substantially 180° about a fold line extending substantially parallel to the length of the pad and bent upwardly and outwardly about a further fold line extending substantially parallel to the length of the pad to define the inclined flaps.

15.

20.

9. An absorbent pad as claimed in any one of the preceding claims in which the pervious layer overlies and is secured to the upper surface of the inclined flaps.

25.

10. An absorbent pad substantially as specifically herein described relating to Figures 1 to 3, Figure 4, Figure 5, Figure 6, Figures 8 to 10, Figure 11, Figure 12 or Figure 13 of the accompanying drawings.

30.